

REMARKS

Claims 16-31 are all the claims pending in the application.

Claims 16, 18 and 28 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Koyama et al. (U.S. Patent 5,428,285).

Claims 17 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Koyama et al. (U.S. Patent 5,428,285) as applied to claim 16 and further in view of Kim (5,971,579).

Claims 19-27, 29, 30 and 31 have been rejected under 35 U.S.C. § 103(a) as being unpatentably over Koyama et al. (U.S. Patent 5,428,285).

The Applicants traverse the rejections and request reconsideration.

Formal Matters

The Applicants had made a request for a corrected Official Filing Receipt on October 5, 2001. However, the corrected OFR has not yet been received. The Examiner is kindly requested to provide the Applicants with a corrected OFR incorporating the requested corrections.

Rejection of claims 16, 18 -31

Claim 16 requires a simulator section and a real controller section. In the non limiting embodiment shown in Fig. 1, the simulator section is shown as item 11. It further requires a real controller section (for example, item 18 of Fig. 1). The real controller section is required to provide a real torque signal to the motor based on a real position instruction signal (for example,

5CN1 of Fig.1) , **a real control parameter (for example, 5CN5 of Fig. 1)** and a real quantity of state (for example 5CN2 or 5CN3 of Fig. 1) observable from a real system.

The Examiner incorrectly contends that Koyama discloses such a real controller section. The thirteen embodiments of Koyama can be grouped into five (those shown in Figs. 2, 10, 18, 24 and 30). The other embodiments are modifications to these embodiments that are not believed to be significant to the present discussions. Further, in the embodiments shown in Figs. 2, 18 and 24, neither the torque control circuit 12 nor any block that provided input to it is shown to be receiving a real control parameter. Claim 16 requires that the real controller section provide a real torque signal based on **a real control parameter** and further that the **real control parameter** be provided by an evaluation section that is part of the simulation section. Therefore, these embodiments do not have a real controller section that provides a real torque signal based on a real control parameter that in turn is provided by an evaluation section in the simulation section.

The closest equivalent of the evaluation section is the correction unit that is shown in Figs. 10 and 30. This is because, only the correction provides any **control parameter** (for example, K and J) to any other block. However, the **control parameters** are provided only to the simulation section, even if the simulation section is broadly construed to include the mechanical system simulating circuit 6a as well as second position control 7 and second speed control 10a as well as the third speed control 11a of Koyama. Such a control parameter is not disclosed (or suggested) to be provided to a real controller section that in turn provides the real torque signal as required by claim 16.

Similarly, only the blocks first position control circuit 5, the first speed control circuit 9 and the third speed control circuit 11a can be combined with the torque control circuit 12 of Koyama because these are the only blocks that receive a real quantity of state (θ_m and ω_m). Even under such a broad construction of a real controller section, Koyama does not disclose (or suggest) anywhere that these blocks receive real control parameters from the simulation section.

Further, for the same reasons, Koyama can not be considered to include an evaluation section that provides a real control parameter to the real controller section.

Claims 18-31 are dependant on claim 16 and are believed to be patentable for the same reasons.

Rejection of Claim 17

Claim 17 includes all the limitations of claim 16 and further requires that a genetic algorithm be used in the evaluation section. Claim 17 is allowable at least for the reason that it includes all the limitations of claim 16. Further, the secondary reference, Kim, does not overcome the deficiencies noted above in the suggestions of Koyama.

CONCLUSION

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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